

Notice of Allowability

Application No.

09/998,383

Examiner

Eric Keasel

Applicant(s)

LEINSING ET AL.

Art Unit

3754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to after-final amendment, filed 20 April 2004.
2. ☒ The allowed claim(s) is/are 6-11, 22-27 and 34-44.
3. ☒ The drawings filed on 29 November 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Thomas A. Runk on May 4, 2004.

The application has been amended as follows: the subparagraph headings added to the claims (e.g. "a") in claim 6, line 4) have been deleted. The amended claims read as follows:

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Listing of Claims:

1 – 5 (canceled)

6. (currently amended) A connector for controlling the flow of fluid, the connector having an internal fluid passageway by which fluid may flow through the connector, the connector comprising:

a) a housing having a first port and a second port, the first port being adapted to receive a blunt cannula and the second port adapted for fluid communication with a fluid conduit; and

b) a movable element positioned within the housing, the movable element having a first position at which the movable element blocks fluid flow through the housing and a second position at which the movable element permits fluid flow through the housing, the movable element comprising:

e) a head defining a bore forming a part of the fluid passageway through the connector, the head being configured such that when the movable element is in the second position, the bore self-opens to permit fluid flow, the head being further configured such that when the moveable element is in the first position the bore moves to a closed configuration preventing fluid flow;

d) a compressible section defining an inner conduit forming a part of the fluid passageway through the connector, the inner conduit having a width moveable between a first width and a second width, the compressible section being configured so that when the moveable element is in the second position the compressible section self-expands so that the inner conduit has the second width, the inner conduit being further configured so that when the moveable element is in the first position the inner conduit moves to the first width, wherein the first width is smaller than the second width;

e) a support tube having opposing ends, the support tube defining a lumen extending between the opposing ends, one end being in fluid communication with the second port and the lumen forming a part of the internal fluid passageway through the connector;

wherein the support tube comprises a wall, the wall defining a slot providing a fluid path between the exterior of the tube and the lumen.

7. (original) The connector of claim 6, wherein the support tube is configured in relation to the moveable element such that, when the movable element is in the second position, the lumen and slot of the support tube are positioned, at least in part, within the inner conduit of the compressible section such that fluid may flow through the inner conduit of the compressible section, through the slot, through the lumen of the support tube, and through the second port of the housing.

8. (currently amended) The connector of claim 7 wherein:

a) the inner conduit of the compressible section has opposing first and second ends, the first end being adjacent the bore of the head; and

b) the movable element defines an orifice located at the second end of the inner conduit, the orifice forming part of a flow path extending from the bore, through the inner conduit, and out of the inner conduit through the orifice.

9. (currently amended) The connector of claim 8 wherein:

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a) the lumen and slot of the support tube extend, at least in part, to a location outside the inner conduit of the compressible section when the movable element is at the second position; and

b) said flow path further extends from the orifice, through the slot, and into the lumen at the location outside of the inner conduit.

10. (currently amended) The connector of claim 8 wherein:

a) the moveable element further comprises a spring section connected to the compressible section; and

b) said flow path further extends from the orifice, and into the spring section whereby the spring section provides a portion of the internal fluid passageway.

11. (currently amended) The connector of claim 10 wherein:

a) the spring section is extended when the moveable element is in the first position and when extended, the spring section has a first internal volume; and

b) the spring section is compressed when the moveable element is in the second position and when compressed, the spring section has a second internal volume, the second internal volume of the spring section being greater than the first internal volume of the spring section;

c) whereby the internal volume of the portion of the flow path provided by the spring section is greater when the spring section is compressed.

12 - 21 (canceled)

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22. (currently amended) A connector for controlling the flow of fluid, the connector having an internal fluid passageway by which fluid may flow through the connector, the connector comprising:

a) a housing having a first port and a second port, the first port being adapted to receive a blunt cannula and the second port adapted for fluid communication with a fluid conduit; and

b) a movable element positioned within the housing, the movable element having a first position at which the movable element blocks fluid flow through the housing and a second position at which the movable element permits fluid flow through the housing, the movable element comprising:

e) a head defining a bore forming a part of the fluid passageway through the connector, the head being configured such that when the movable element is in the second position, the bore self-opens to permit fluid flow, the head being further configured such that when the movable element is in the first position the bore moves to a closed configuration preventing fluid flow;

d) a compressible section defining an inner conduit forming a part of the fluid passageway through the connector, the inner conduit having a width moveable between a first width and a second width, the compressible section being configured so that when the movable element is in the second position the compressible section self-expands so that the inner conduit has the second width, the inner conduit being further configured so that when the movable element is in the first position the inner conduit moves to the first width, wherein the first width is smaller than the second width; and wherein the inner conduit is configured such that fluid may continuously flow through the entire inner conduit when the movable element is in the second position; and

e) a support tube having opposing ends, the support tube defining a lumen extending between the opposing ends, one end being in fluid communication with the second port and the lumen forming a part of the internal fluid passageway through the connector;

wherein the support tube comprises a wall, the wall defining a slot providing a fluid path between the exterior of the tube and the lumen.

23. (original) The connector of claim 22 wherein the support tube is configured in relation to the moveable element such that, when the movable element is in the second position, the lumen and slot of the support tube are positioned, at least in part, within the inner conduit of the compressible section such that fluid may flow through the inner conduit of the compressible section, through the slot, through the lumen of the support tube, and through the second port of the housing.

24. (currently amended) The connector of claim 23 wherein:

a) the inner conduit of the compressible section has opposing first and second ends, the first end being adjacent the bore of the head; and

b) the movable element defines an orifice located at the second end of the inner conduit, the orifice forming part of a flow path extending from the bore, through the inner conduit, and out of the inner conduit through the orifice.

25. (currently amended) The connector of claim 24 wherein:

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a) the lumen and slot of the support tube extend, at least in part, to a location outside the inner conduit of the compressible section when the movable element is at the second position; and

b) said flow path further extends from the orifice, through the slot, and into the lumen at the location outside of the inner conduit.

26. (currently amended) The connector of claim 25 wherein:

a) the moveable element further comprises a spring section connected to the compressible section; and

b) said flow path further extends from the orifice, and into the spring section whereby the spring section provides a portion of the internal fluid passageway.

27. (currently amended) The connector of claim 26 wherein:

a) the spring section is extended when the moveable element is in the first position and when extended, the spring section has a first internal volume; and

b) the spring section is compressed when the moveable element is in the second position and when compressed, the spring section has a second internal volume, the second internal volume of the spring section being greater than the first internal volume of the spring section;

c) whereby the internal volume of the portion of the flow path provided by the spring section is greater when the spring section is compressed.

28 – 33 (canceled)

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34. (currently amended) A connector for controlling the flow of fluid, the connector having an internal fluid passageway by which fluid may flow through the connector, the connector comprising:

a) a housing having a first port and a second port, the first port being adapted to receive a blunt cannula and the second port adapted for fluid communication with a fluid conduit;

b) a movable element positioned within the housing, the movable element having a first position at which the movable element blocks fluid flow through the housing and a second position at which the movable element permits fluid flow through the housing, the movable element comprising:

e) a head defining a bore forming a part of the fluid passageway through the connector, the head being configured such that when the movable element is in the second position, the bore self-opens to permit fluid flow, the head being further configured such that when the moveable element is in the first position the bore moves to a closed configuration preventing fluid flow;

d) a compressible section defining an inner conduit forming a part of the fluid passageway through the connector, the inner conduit having a width moveable between a first width and a second width, the compressible section being configured so that when the moveable element is in the second position the compressible section self-expands so that the inner conduit has the second width, the inner conduit being further configured so that when the moveable element is in the first position the inner conduit moves to the first width, wherein the first width is smaller than the second width, the inner conduit being configured such that fluid may continuously flow through the entire inner conduit when the movable element is located in the second position; and

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e) a support tube having a first end and a second end with the second end being in fluid communication with the second port, the support tube having a lumen forming a part of the internal fluid passageway through the connector, the support tube having a wall that defines the lumen and a longitudinal slot formed through the wall and into communication with the lumen whereby fluid may flow into and out of the lumen through the longitudinal slot;

f) wherein the lumen and slot of the support tube are located within the inner conduit of the compressible section when the movable element is in the second position whereby fluid may flow through the inner conduit of the compressible section, through the slot, through the lumen of the support tube, and through the second port of the housing.

35. (currently amended) The connector of claim 34 wherein:

- a) the inner conduit of the compressible section has a first end and a second end; and
- b) the movable element also comprises an orifice located at the second end of the inner conduit that provides a flow path between the inner conduit and a location of the fluid passageway that is outside of the inner conduit.

36. (currently amended) The connector of claim 35 wherein:

- a) the lumen and slot of the support tube extend to a location outside the inner conduit of the compressible section when the movable element is at the second position; and
- b) the orifice provides a flow path between the inner conduit and the slot and the lumen of the support tube at the location outside of the inner conduit.

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37. (currently amended) The connector of claim 36 wherein:

a) the moveable element further comprises a spring section connected to the compressible section, the spring section located over the lumen and slot of the support tube that extend to the location outside the inner conduit; and

b) the orifice provides the flow path through the spring section.

38. (currently amended) The connector of claim 37 wherein:

a) the spring section is extended when the moveable element is in the first position and when extended, the spring section has a first internal volume; and

b) the spring section is compressed when the moveable element is in the second position and when compressed, the spring section has a second internal volume, the second internal volume of the spring section being greater than the first internal volume of the spring section;

e) whereby the internal volume of the portion of the flow path provided by the spring section is greater when the spring section is compressed.

39. (original) The connector of claim 34 further comprising a narrowed region adjacent the first port of the housing at which the head of the movable element is located when the movable element is in the first position, the size of the narrowed region selected so as to cause the bore of the head to close to prevent fluid flow through the fluid passageway of the connector.

40. (original) The connector of claim 34 further comprising a narrowed region adjacent the first port of the housing at which the compressible section is located when the movable

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element is in the first position, the size of the narrowed region selected so as to cause the inner conduit of the compressible section to move to its second width.

41. (currently amended) The connector of claim 40 wherein:

a) the compressible section is connected to the head; and

b) the moveable element further comprises a spring section connected to the compressible section, the spring section being adapted to urge the movable element to the first position at which the compressible section is placed within the narrowed region.

42. (original) The connector of claim 41 wherein the head, and the compressible section, and the spring section are molded as an integral element from a resilient material.

43. (original) The connector of claim 34 wherein the compressible section comprises a plurality of substantially inflexible wall elements and a plurality of substantially flexible membrane elements, the membrane elements connecting together adjacent edges of the wall elements.

44. (original) The connector of claim 43 wherein the membrane elements are adapted to fold radially inwardly when the inner conduit has the second width.

45-49 (canceled)

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2. The following is an examiner's statement of reasons for allowance:

The prior art of record does not disclose or suggest (in combination with the other recited limitations in independent claims 6, 22, and 34) the support tube comprising a wall, with the wall defining a slot providing a fluid path between the exterior of the tube and the lumen.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Keasel whose telephone number is (703) 308-6260. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (703) 308-2696. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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